Appendix C:

SUPPLEMENTAL ENVIRONMENTAL PROJECT COST CALCULATION INSTRUCTIONS

December 1993 (Updated: August 1997)

INSTRUCTIONS FOR USING BEN TO CALCULATE
THE VALUE OF A SUPPLEMENTAL ENVIRONMENTAL PROJECT **APPENDIX C**

A. INTRODUCTION

In certain environmental enforcement cases, the defendant/respondent will be allowed to perform a "Supplemental Environmental Project" (SEP) in exchange for a reduction in the proposed monetary penalty.[1] Seven types of activities are considered as potential SEP projects: 1) public health, 2) pollution prevention, 3) pollution reduction, 4) environmental restoration, 5) environmental assessment and audit, 6) environmental compliance promotion, 7) emergency planning and preparedness. The final assessed penalty may be reduced to reflect a commitment to undertake environmentally beneficial expenditures. In particular, the penalty may be reduced by no more than the after-tax amount the violator spends on the project.[2] The best way to determine the net-present, after-tax value of a SEP is to apply the PROJECT model, however, with SEPs involving advanced compliance (e.g., coming into compliance two years early) one needs to use the BEN model. The following section discusses the appropriate method for performing this type of calculation. If you need assistance please contact the U.S. EPA enforcement economics toll-free hotline at (888) ECON-SPT (326-6778) or benabel@indecon.com. If you need legal or policy guidance, please contact Jonathan Libber, the BEN/ABEL Coordinator at (202) 564-6011, or libber.jonathan@epamail.epa.gov.

[1] See memorandum from Steven A. Herman, "Issuance of Interim Revised Supplemental Environmental Projects Policy," dated May 3, 1995 for details on acceptable projects.

[2] Note that it is important to compare the after-tax costs of the project to the penalty. Project costs are tax-deductible while penalties are not. If you use before-tax costs of the project, you will compute an excessive credit. BEN automatically converts costs to an after-tax basis.

B. EVALUATING EARLY COMPLIANCE AS A SEP

As a form of SEP, a defendant may offer to comply with an environmental regulation significantly earlier than is required. Such a SEP has associated with it an after-tax net present value that is the maximum amount by which you can reduce the proposed civil penalty. To calculate the after-tax net present value of early compliance, you should use the BEN model, which EPA staff typically use to calculate the economic benefit of delayed compliance. BEN is also a suitable tool, however, for calculating the economic cost of early compliance.

To use BEN in such an application, first enter all the cost variables as you normally would for a standard BEN run. For the noncompliance date, enter the date when the regulation requires compliance of the defendant, i.e., the date by which you would normally expect the defendant to achieve compliance.
For the compliance date, enter the date that the defendant is proposing for its early compliance, i.e., a date earlier than the noncompliance date you previously entered. (Disregard the warning message BEN may display due to a noncompliance date that is earlier than a compliance date.). The economic benefit result as of the penalty payment date should be a negative amount, confirming that the early compliance is indeed a net cost to the defendant. This result is the maximum amount by which you should mitigate the proposed civil penalty.

C. SUPPLEMENTAL ENVIRONMENTAL PROJECT EXAMPLE

The following example shows the calculation for compliance two years earlier than required (e.g. the company will have the project completed by January, 1996 rather than by January, 1998, as required by regulation). This calculation results in a maximum SEP value of $256,000.

Exhibit C-2

INPUTS FOR SUPPLEMENTAL ENVIRONMENTAL PROJECT EXAMPLE

1.A.	Case Name	Advanced Compliance SEP
1.B.	Profit Status	1 (For Profit)
1.C.	Filing Status	1 (C-Corporation)
2.	Depreciable Costs One-Time/Recurring	$1000000 1994 dollars recurring
3.	One-time Nondepreciable Costs	$123000 1996 dollars
4.	Annual Costs	$49000 1997 dollars
5.	Noncompliance Date	January 1998
6.	Compliance Date	January 1996
7.	Penalty Payment Date	June 1997
8.	Useful Life	15 years
9.	Tax rate (1986 and before)	49.6%
10.	Tax rate (1987 to 1992)	38.6%
11.	Tax rate (1993 and beyond)	39.4%
12.	Inflation	1.8%
13.	Discount rate: WACC	10.6%

Exhibit C-3

BEN OUTPUT FOR SUPPLEMENTAL ENVIRONMENTAL PROJECT EXAMPLE

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  ADVANCED COMPLIANCE SEP                  BEN VERSION 4.4 JULY 1, 1997

A.  VALUE OF EMPLOYING POLLUTION CONTROL ON-TIME AND
    OPERATING IT FOR ONE USEFUL LIFE IN 1998 DOLLARS $        1095

B.  VALUE OF EMPLOYING POLLUTION CONTROL ON-TIME AND
    OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE
    REPLACEMENT CYCLES IN 1998 DOLLARS               $        1508

C.  VALUE OF DELAYING EMPLOYMENT OF POLLUTION
    CONTROL EQUIPMENT BY ** MONTHS PLUS ALL FUTURE
    REPLACEMENT CYCLES IN 1998 DOLLARS               $        1779

D.  ECONOMIC BENEFIT OF A -24 MONTH DELAY
    IN 1998 DOLLARS (EQUALS B MINUS C)               $        -272

E.  THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT
    DATE,   -7 MONTHS AFTER NONCOMPLIANCE             $         -256
                                                     =========

                                          (DOLLARS IN THOUSANDS)

 ->->->->->->  THE ECONOMIC BENEFIT CALCULATION ABOVE  <-<-<-<-<-<-
                    USED THE FOLLOWING VARIABLES:

       USER SPECIFIED VALUES
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    1A. CASE NAME = ADVANCED COMPLIANCE SEP
    1B. PROFIT STATUS =                              FOR-PROFIT
    1C. FILING STATUS =                           C-CORPORATION
    2. INITIAL CAPITAL INVESTMENT (RECURRING)= $    1000000  1994 DOLLARS
    3. ONE-TIME NONDEPRECIABLE EXPENDITURE =   $     123000  1996 DOLLARS
       (TAX-DEDUCTIBLE EXPENSE)
    4. ANNUAL EXPENSE =                        $      49000  1997 DOLLARS
    5. FIRST MONTH OF NONCOMPLIANCE =                          1, 1998
    6. COMPLIANCE DATE =                                       1, 1996
    7. PENALTY PAYMENT DATE =                                  6, 1997

       STANDARD VALUES
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    8. USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =       15 YEARS
    9. MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =      49.6 %
   10. MARGINAL INCOME TAX RATE FOR 1987 TO 1992 =         38.6 %
   11. MARGINAL INCOME TAX RATE FOR 1993 AND BEYOND =      39.4 %
   12. ANNUAL INFLATION RATE =                              1.8 %
   13. DISCOUNT RATE: WEIGHTED-AVERAGE COST OF CAPITAL     10.6 %
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